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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,513	04/01/2004	Nobuyoshi Wakasugi	01-593	6470
23400	7590	09/09/2005	EXAMINER	
POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191			BONANTO, GEORGE P	
			ART UNIT	PAPER NUMBER
			2855	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/814,513	WAKASUGI ET AL.	
	Examiner George P. Bonanto	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-5 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>1 April 2004</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Specification***

The abstract of the disclosure is objected to because the abstract, in the first sentence, contains the phrase, "In ECU in which . . ." The phrase should be deleted and the phrase, "An ECU in which . . ." should be inserted in its place. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: page 8, at the bottom, contains the phrase, "The case 26 of ECU 30 is fixed, via the o-ring 35, to the outer wall 26A of the surge tank 26 . . ." The proper reference numeral for the case is 31.

Appropriate correction is required.

### ***Claim Objections***

Claim 4 is objected to because of the following informalities: claim 4 contains the claim element "the engine" which lacks antecedent basis. Appropriate correction is required.

Claim 5 is objected to because of the following informalities: claim 5 contains the phrase, "wherein the pressure sensor is incorporated in ECU." The phrase should be deleted and the phrase, "wherein the pressure sensor is incorporated in an ECU" should be inserted in its place. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (AAPA).

As to claim 1, AAPA discloses a pressure sensor comprising a sensor IC (page 2, lines 4-6) having a pressure sensor element (page 2, lines 12-13) covered with mold resin (page 2, lines 12-14) the mold resin being provided with a pressure introduction hole extending outwardly from the pressure sensor element so as to open to an outer surface thereof (page 2, lines 4-23) a board on which the sensor IC is mounted (page 2, lines 11-12) a case in which the sensor IC and the board are accommodated (page 2, line 12) the case being provided with a pressure introduction inlet penetrating a wall thereof (page 2, line 16) and an interposed member having a communication hole, the interposed member being disposed between an inner wall of the case and the outer surface of the mold resin so as to allow the pressure introduction inlet to communicate with the pressure introduction hole without air leakage (rubber hose 10, Figs. 5 and 6 and page 2, lines 16-20).

As to claim 3, AAPA further discloses that the interposed member is a resilient member whose interior is provided with a through-hole constituting the communication hole (rubber hose 10, Figs. 5 and 6) and which is resiliently deformed so as to contact air tightly with the inner wall of the case and the outer surface of the mold resin (page 2, lines 21-23 and Figs. 5 and 6).

As to claim 4, AAPA further discloses that the pressure sensor is mounted on an intake system module (sensor IC 13 mounted on intake system module 1, Figs. 5 and 6) provided in an interior thereof with an intake air passage (page 1, lines 25-26) through which an intake air is supplied to an engine (page 2, line 1) and in an outer wall thereof with a pressure introduction outlet (page 2, lines 9-11 and Fig. 5) which communicates with the intake pressure in the intake

air passage (page 2, line 10) and, further, wherein the pressure sensor is fixed to the outer wall of the intake system module in a state that the pressure introduction outlet is opposed to and communicates with the pressure introduction inlet without leakage (rubber hose 10 fixes sensor IC to outer wall of intake system module, Figs. 5 and 6 and page 2, lines 16-20).

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 6,155,119 to Normann et al.

As to claim 1, Normann et al disclose a pressure sensor comprising a sensor IC having a pressure sensor element (col. 1, lines 17-19) covered with mold resin (col. 4, lines 33-34) the mold resin being provided with a pressure introduction hole extending outward from the pressure sensor element so as to open to an outer surface thereof (col. 4, lines 38-42) a board on which the sensor IC is mounted (col. 4, lines 56-57) a case in which the sensor IC and the board are accommodated (housing 20, Fig. 20 and col. 6, lines 49-53) the case being provided with a pressure introduction inlet penetrating a wall thereof (Figs. 20 and 21) and an interposed member having a communication hole (sleeve 22, Fig. 21) the interposed member being disposed between an inner wall of the case and the outer surface of the mold resin so as to allow the pressure introduction inlet to communicate with the pressure introduction hole without air leak (col. 6, lines 49-58).

As to claim 2, Normann et al. further disclose that the interposed member is a sealing resin with which an interior of the case is filled except the communication hole so as to encompass the sensor IC and the board (sealing ring 21, Fig. 20 and col. 6 lines 49-58).

As to claim 3, Normann et al. further disclose that the interposed member is a resilient member whose interior is provided with a through-hole constituting the communication hole and

which is resiliently deformed so as to contact air tightly with the inner wall of the case and the outer surface of the mold resin (sleeve 22, Fig. 21 and col. 6, lines 49-58).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,155,119 to Normann et al. as applied to claim 1 above in view of Applicant's Admitted Prior Art (AAPA) in further view of Published Jap. Application No. 2003/049678 by Karasawa et al.

As to claim 4, Normann et al. fail to disclose that the pressure sensor is mounted on an intake system module provided in an interior thereof with an intake air passage through which an intake air is supplied to the engine and in an outer wall thereof with a pressure introduction outlet which communicates with intake pressure in the intake air passage and wherein the pressure sensor is fixed to the outer wall of the intake system module in a state that the pressure introduction outlet is opposed to and communicates with the pressure introduction inlet without air leakage.

AAPA discloses that the pressure sensor is mounted on an intake system module (sensor IC 13 mounted on intake system module 1, Figs. 5 and 6) provided in an interior thereof with an intake air passage (page 1, lines 25-26) through which an intake air is supplied to an engine (page 2, line 1) and in an outer wall thereof with a pressure introduction outlet (page 2, lines 9-11

and Fig. 5) which communicates with the intake pressure in the intake air passage (page 2, line 10). AAPA fails, however, to disclose that pressure sensor is fixed to the outer wall of the intake system module in a state that the pressure introduction outlet is opposed to and communicates with the pressure introduction inlet without air leakage.

Karasawa et al. disclose that the pressure sensor is fixed to the outer wall of an intake system module (MAP sensor included in ECU, paragraph 20 and ECU attached to throttle body, paragraph 10; Figs. 1, 10, 15 and 17-19) in a state that the pressure introduction outlet is opposed to and communicates with the pressure introduction inlet without leakage (hole 23 and slot 33, Figs. 6-9 and 17-19 and paragraphs 18, 37 and 40).

It would have been obvious to one of ordinary skill in the art to attach the pressure sensor of Normann et al. to the intake system module of AAPA using the technique of Karasawa et al. in order to monitor the intake pressure of the engine and reduce the space required for the sensor unit (Karasawa, paragraphs 40 and 9).

As to claim 5, Karasawa et al. further disclose that the pressure sensor is incorporated in an ECU for controlling the engine as an integrated body (paragraph 11) the ECU including engine control devices in addition to the sensor IC which are necessary for controlling the engine mounted on the board in the case (paragraph 16) at positions where communication with the pressure introduction inlet is blocked by the interposed member (lobes or recesses created by slots in the case which correspond to the size and shape of the sensors, paragraph 39 and Fig. 15 shows the slots isolating the interior of the ECU case from the pressure in the intake system).

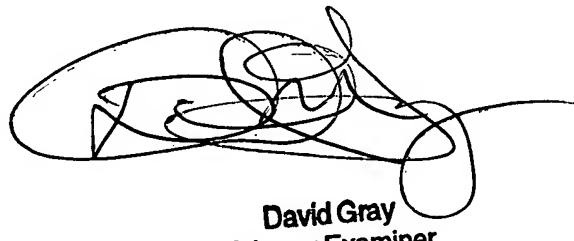
### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. Nos. 4,325,260; 5,424,249; 5,444,286; 6,047,604; 6,177,727; 6,191,359; 6,260,417; 6,300,155 and 6,393,922 and Published U.S. Application Nos. 2002/0033050 and 2004/0055387 disclose various semiconductor pressure sensors, casings and mountings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George P. Bonanto whose telephone number is (571) 272-2182. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David M. Gray can be reached on (571) 272-2119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Gray  
Primary Examiner

GPB